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U. S. DEPARTMENT OF AGRICULTURE

LEAFLET NO. 439



Spring-Flowering Bulbs

UNITED STATES DEPARTMENT OF AGRICULTURE



Spring-Flowering Bulbs

Spring-flowering bulbs bring color to your garden at a time when few other plants are in bloom.

Spring-flowering bulbs include daffodils, tulips, hyacinths, bulb iris, and crocuses. Some that are smaller and not so well known are scillas, glory-of-the-snow, grape-hyacinths, and snowdrops.

SELECTING BULBS

- Know types, colors, and sizes of bulbs, and the places they grow best. Choose colors that harmonize with the rest of your garden.

- Choose either domestic or imported bulbs. They are equally good.

- Make sure bulbs are not diseased. Diseased bulbs look moldy, discolored, or soft and rotted.

- Buy from a dealer who sells good bulbs. Cheap bulbs usually are of poor quality.

- Buy the specific colors or varieties you want. Inexpensive packaged mixtures often contain too many of one color.

DESCRIPTION

Tulips

Most tulips have one cup-shaped flower to a stem. They grow 1 to 3 feet high and look best in masses or in clusters of 6 to 8.

Each year, the U. S. Department of Agriculture receives thousands of requests for information about growing flowers. In an effort to comply with these requests efficiently, the Department has prepared a series of publications on the flowers that are most frequently the subject of inquiry. This leaflet is one of the series.

You can buy tulips by type, variety, or species.

The most common types are Breeder, Darwin, Cottage, Lily flowered, Parrot, and Double.

Common types of tulips and some of their characteristics are as follows:

Breeder—Bronzed, almost muddy appearance; colors are not bright and clear.

Cottage—Bloom later than other tulips; petals form a deep cup.

Darwin—Tallest tulips; flower is as wide as it is deep.

Lily flowered—Petals curve outward and form a bell-shaped flower.

Parrot—Twisted, ruffled petals.

Double—Two or more rows of petals.

Within each of these types are many varieties.

Tulips that do not belong to the common types are sold by species names. Examples are *Tulipa tarda*, *T. clusiana*, and *T. praestans*.

Well-known and Dependable Tulips

TYPE	VARIETY	COLOR
Darwin.....	Pride of Haarlem.....	Red.
	Clara Butt.....	Pink.
	Farncombe Sanders.....	Red.
Cottage.....	Mrs. Moon.....	Yellow.
	Chappaqua.....	Violet rose and white.
	Smiling Queen.....	Pink and white.
Lily flowered.....	Queen of Sheba.....	Red and yellow.
	Westpoint.....	Yellow.
	Mariette.....	Rosy pink.
Breeder.....	Captain Fryatt.....	Bright red.
	Papago.....	Poppy red.
	Dillenburg.....	Orange apricot.
Parrot.....	Dixie Sunshine.....	Lilac.
	Parrot Wonder.....	Red.
	Blue Parrot.....	Blue.
Double.....	Texas Gold.....	Golden yellow.
	Mount Tacoma.....	White.
	Eros.....	Lilac rose.
Species.....	Nizza.....	Yellow and red.
	Red Emperor.....	Red.
	White Emperor.....	White.
	<i>Tulipa tarda</i>	Yellow.
	<i>T. clusiana</i>	White and pink.
	<i>T. praestans</i>	Brick red.
	<i>T. kaufmanniana</i>	White, yellow, and pink.



Many dealers sell Rembrandt, or "broken," tulips. These bulbs are infected with a virus disease that gives the flowers a "broken" (striped, blotched, and mottled) appearance. Virus from these diseased bulbs will infect healthy tulips and lilies that are planted close to them. Diseased plants get smaller every year, and die in 3 to 5 years. If you want to grow healthy tulips, you must keep "broken" tulips away from the healthy ones.

Hyacinths

Hyacinths are showy and formal. Many small flowers grow close together along the stem. Plants grow 6 inches to 1 foot high; they look best in masses, or in clusters of 4 or 5 plants. The stiff hyacinth flowers grow in shades of white, blue, yellow, and rose.

Hyacinth bulbs are sold by variety and usually are graded by size. Size of bulb indicates size of flower. Top-grade bulbs produce the largest flowers. Bedding-, third-, and fourth-grade bulbs are progressively smaller.

Well-known and dependable varieties are:

City of Haarlem (yellow), L'innocence (white), Gertrude (rose), and Bismarck, King of the Blues (blue).

Daffodils

Daffodils grow about a foot high. Plants grow in clusters and look well

in small clumps. If you have a wooded area, scatter bulbs to make loose masses of plants. Flowers are white, yellow, pale pink, and apricot. Some flowers have two colors.

Many types of daffodils are classified by the length of the crown—that is, the part of the flower that forms a "trumpet," or cup.

Trumpet daffodils have long, almost tubular crowns. Cupped daffodils have shorter crowns. Both types have one flower to a stem. Tazetta daffodils have a small, halolike crown, and many small flowers on a stem. Poeticus daffodils are like Tazettas but have only one large flower to a stem. Hybrids of these two—Poetaz daffodils—have many large flowers to a stem. Jonquilla types are hybrids of the daffodil *Narcissus jonquilla*. There are also double-flowered daffodils.

Many varieties are included within each type.

Well-known and Dependable Daffodils

TYPE	VARIETY	COLOR
Trumpet.....	King Alfred.....	Yellow.
	Van Waverin's Giant.....	Yellow.
	Golden Harvest.....	Yellow.
	Mount Hood.....	White.
Cupped.....	Golden Frilled.....	Yellow.
	Mrs. R. O. Backhouse.....	Pink and white.
	Helios.....	Yellow.
	Fortune.....	Yellow and orange.
Poeticus.....	Pheasant's Eye.....	White.
	Actaea.....	White and dark red.
Tazetta.....	Lauren's Koster.....	White.
	Klondike.....	Yellow.
	L'innocence.....	Orange red.
Poetaz.....	Cheerfulness.....	Cream.
	Yellow Cheerfulness.....	Yellow.
	Geranium.....	White and orange.
Jonquilla.....	Trevithian.....	Yellow.
	Jonquilla Simplex.....	Yellow.
	Golden Perfection.....	Yellow.

Bulb Iris

Most bulb iris are 1½ to 2½ feet tall. Flowers are erect on firm, straight stems. The three most common kinds of bulb iris, Dutch, Spanish, and English, differ mainly in their blooming time—but this difference is slight. Each kind has white, yellow, or blue flowers.

Recommended varieties are:

Golden Harvest, Pacific Yellow, Yellow Queen (yellow); White Excelsior, White Superior (white); Wedgewood (light blue); and Imperator (dark blue).

Crocuses

Crocuses bloom in early spring. The 4-inch plants look well in clusters

and masses. Flowers are blue, purple, gold, and white. Crocuses are usually sold by variety and graded by size. The largest bulbs produce the largest flowers. The varieties generally recommended for planting are:

Yellow Mammoth (yellow); Snowstorm, Remembrance, Mont Blanc (white); King of the Striped (white, striped blue); and Purpurea Grandiflora (purple).

Other Bulbs

Scillas, glory-of-the-snow, grape-hyacinths, and snowdrops have tiny, hanging flower clusters. Nearly all plants of these species are less than a foot high. These flowers look best when planted in clumps.

Other Well-known and Dependable Bulbs

PLANT		VARIETY	COLOR
Scilla	Blue		Blue.
	(<i>Scilla campanulata</i> and	White	White.
	<i>S. sibirica</i>).	Pink	Pink.
Glory-of-the-snow	Lucileae		Bright blue.
	Sardensis		Dark blue.
Grape-Hyacinths	Heavenly Blue		Blue.
	White		White.
Snowdrops	Elswesi		White.

PLANTING BULBS

When To Plant

Where To Plant

Bulbs prefer well-drained sandy soil. They grow well when they get long hours of direct sunshine and plenty of moisture. Plant on high or slightly sloping ground where excess water will drain away. If you plant bulbs in a southern exposure—near a building or wall—they will bloom earlier than bulbs you plant in a northern exposure.

Spring-flowering bulbs must have time to develop roots before winter. Plant them not later than the end of September in the North, and late October in the South. Where the ground is not frozen, you can plant daffodils until January, although early planting is better.

Preparing the Soil

At planting time, loosen and dig the soil 12 inches deep. If the soil

still seems too hard for roots to penetrate, dig 8 inches deeper. Break up lumps thoroughly.

If your soil is heavy and does not drain well, you may have to install underground drainage before planting bulbs. For information about drainage, see your county agricultural agent.

Work any commercial 5-10-5 (5 percent of nitrogen, 10 percent of phosphoric oxide, 5 percent of potash) fertilizer into the soil. Use 2 pounds for a 5- by 10-foot area or a small handful for a cluster of 3 to 5 bulbs.

How To Plant

Plant crocuses, glory-of-the-snow, scilla, grape-hyacinths, and snowdrops with the tips of the bulbs 2

inches below the surface. Iris can be set 3 inches deep; hyacinths, 4 inches; tulips, 6 to 7 inches; and daffodils, 6 to 8 inches. Plant a few inches deeper in light soil (loose, easily dug soil that contains large amounts of sand or organic matter).

Set the bulbs firmly into the ground so there are no air pockets underneath.

Plant bulbs close together (3 or 4 inches apart) if you want thick masses of flowers the first year. Bulbs this closely planted become crowded quickly—you will have to dig, store, and divide them more often than bulbs planted farther apart.

After planting, soak the planted beds to dissolve the fertilizer and settle the bulbs.

Where winters are severe, protect daffodils, tulips, hyacinths, and iris by mulching; cover the planted bulbs with 2 to 4 inches of straw, hay, or leaves when the ground freezes 1 or 2



Tulip bulbs ready to be taken from the soil. Leaves and stems are dead; bulb coats are light brown. Note 6- or 7-inch planting depth.



Diseased tulip bulbs show soft, wet rot and small black spots (left) and wrinkled, dried, and cracked surfaces (right).

inches deep. If you mulch them this way, bulbs will not freeze. Mulching prevents the alternate freezing and thawing of soil that would harm bulbs.

Iris shoots appear soon after planting. Shoots of other bulbs appear as early as February. All of them are tolerant of low temperatures; only severe frosts will harm them.

CARE OF PLANTS

Before Blooming

If you have fertile soil, and your plants are deep green and healthy looking, you will not need to fertilize. If you think fertilizer is necessary, apply a nitrogen fertilizer such as ammonium sulfate or sodium nitrate. Use it sparingly. Too much nitrogen causes bulbs to rot. Use $\frac{1}{4}$ pound for

a 5- by 10-foot area. Do not let fertilizer remain on the leaves. It will burn them.

Weed the plant bed regularly. Weeds rob plants of food and water.

At Blooming

Flowers will last longer if you cut them with a sharp knife. Do not cut any of the leaves—doing so harms the plants.

After Blooming

After the flowers fade, cut them off to prevent seed formation. Seed development takes stored food from the bulbs.



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After bulbs are dry, place them in a cool, dry, dimly lit area. Stacking flat boxes this way allows air to circulate around the bulbs.



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This hyacinth bulb has too many new bulbs growing from it. It is ready to be divided. Note the matted roots and crowded leaves.



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New bulbs growing from a mature tulip bulb. They have been dried and stored and are ready for separation.

Some people like to make their garden neat by cutting down the leaves after blooming time. Do not cut leaves. Let them die naturally—the green leaves build next year's bulbs.

CARE OF BULBS

Dig, store, and replant bulbs when they become crowded and produce a few small flowers. Do not dig them before this time. Hyacinths and tulips usually need replanting more often than other bulbs.

You can dig bulbs after the leaves die. When digging tulips and hyacinths, uncover a few bulbs without disturbing them; if the bulb coat is light brown, they are ready to be dug.

Keep bulbs out of direct sunlight, particularly just after digging. Spread them in shallow trays and dry them in an airy, shaded spot. Daffodils

and iris must be dried as quickly as possible to prevent rotting. You can use an electric fan to hasten drying.

When the outer scales are dry, move the bulbs to a cool, dry, dimly lit area, such as a garage or cellar. Be sure not to leave any soil on the bulbs during storage. Look at the bulbs at least once a week; remove any that are rotted or diseased.

In the early fall when the bulbs are dry, separate those that have formed clumps. Do not forcibly separate bulbs that are not dry. You can plant the small bulbs at the same time you plant the large ones. Small bulbs will not produce flowers until the second or third year.

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